Remarks

It is believed that this Amendment, in conjunction with the following remarks, place the application in immediate condition for allowance. Accordingly, entry of this Amendment and favorable consideration of the application are respectfully requested in view of the foregoing amendments and the following remarks. Claims 1-12 are pending, claims 1 and 4 have been amended and claim 12 has been added.

Interview Summary

At the outset, Applicant's representative thanks the Examiner for the courtesies extended during the interview conducted on 23 March 2004. Applicants provided the Examiner with an unofficial draft of the claim amendments to address the 35 U.S.C. § 112 and 103 rejections. In a subsequent conversation 15 April 2004 the Examiner indicated that amending the claims to include "isolated environment" would overcome the Examiner's 35 U.S.C. § 112 and 103 rejections, in particular that the steps take place in a similar environment. The Examiner additionally indicated that the steps should be in a vacuum chamber since the Examiner alleged that such steps could not take place in the atmosphere. Applicants pointed out that the steps could take place in a variety of environments at atmospheric pressure. Additional detailed arguments are provided in the following sections in support of Applicants' position.

Withdrawal of Finality

Since the Examiner has raised a new basis of rejection regarding the specific features alleged to teach Applicants' claimed combinations and has also raised new rejections based on 35 U.S.C. § 112, first paragraph, Applicants respectfully request that the finality of the outstanding Office Action be withdrawn if the application is not allowed. However, as noted in the foregoing "Interview Summary" section, Applicants respectfully submit that this issue should be moot as the application is in condition for allowance.

Drawings

Applicants appreciate the Examiner's indication that the drawing of 16 January 2004 are accepted.

35 U.S.C. § 112 Rejection

Claims 1-4 have been rejected under 35 U.S.C. § 112 first paragraph as having a disclosure which is allegedly not enabling. Applicants direct the Examiner's attention to amended claims 1 and 4. As indicated by the Examiner in the interview discussed above, Applicants content that the amendments to the claims overcome the Examiner's 35 U.S.C. § 112 first paragraph rejection. Likewise the disclosure is enabling with respect to claims 2 and 3, which depend on claim 1, for the reasons given above for claim 1. Thus, Applicants respectfully request that the Examiner reconsider and withdraw the 35 U.S.C. § 112 claim rejection.

Prior Art Rejections

In the Examiner's response to the Applicants previous arguments the Examiner indicated that the steps allegedly should take place in a chamber maintained under reduced pressure (Office Action, 17 March 2004, page 6). In light of the claim amendments and interview discussed above, Applicants repeat the previous arguments with additional arguments related to the claim amendments and respectfully assert that the pending claims define over the references.

1. Rejection under 35 U.S.C. § 103 (a) based on Kinoshita in view of Kanai

Claims 1-3 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kinoshita et al. (JP 2001-137800) in view of Kanai et al. (U.S. Patent No. 5,520,740). This rejection is respectfully traversed.

As set forth on pages 3-5 of the Office Action, the Examiner alleges that Kinoshita teaches a method of treating a surface comprising the steps of supplying a humidified inert gas and irradiating the treating surface of a substrate with ultraviolet rays. The Examiner states that Kinoshita fails to teach removing oxygen on and in the vicinity of the treating surface of the substrate. The Examiner further alleges that Kanai teaches a method of treating the surface of the substrate wherein the surface of the

substrate is purged using an inert gas such as Ar. The Examiner further alleges that the purging mechanism of Kanai would inherently remove oxygen on and in the vicinity of the treating surface of the substrate. Applicants submit, however, that the Office Action fails to make a *prima facie* showing that Kinoshita in view of Kanai renders independent claim 1 and dependent claims 2-3 unpatentable.

As described in the present application (Specification, page 2, ll.2 – page 4) Kinoshita et al. (JP 2001-137800) fails to contain methods to remove oxygen on and in the vicinity of the treating surface of the substrate.

Kanai et al. (U.S. Patent No. 5,520,740) is directed to a method for continuously forming a large area functional deposited film by a microwave plasma (Kanai, abstract). Kanai states that the apparatus used "may include one or more other film forming vacuum vessels. ... each of the vacuum vessels is isolated one from the other by means of a gas gate..." (Kanai, col. 42, ll. 27-31). Kanai further states "it is required that said gas gate means functions to prevent a film-forming raw material gas used in one vacuum vessel from dispersing into the other vacuum vessel" (Kanai, col. 42, ll. 42-44). Kanai illustrates a method of using gas gates, 1016 and 1017, for blocking the gas in one chamber from flowing into another. However, Kanai is completely silent as to "removing oxygen on ... a treating surface" as in claim 1.

Gas gates, 1016 and 1017, in Kanai are constructed to direct gas perpendicular to the substrate (Kanai, Figures 9(a), 9(b), and 10-15). Kanai illustrates directing the gas of the gas gate perpendicular to the substrate and states: "it is understood that the point where pressure becomes maximum is situated near the central part of the gas gate and thus, the gate gas dividedly flows from the central part toward the respective adjacent vessels" (Kanai, col. 43, ll.67- col. 44, ll. 4; Note Kanai mistakenly refers to Figures 19(a) and (b) which should instead be 9(a) and (b) respectively). In the configuration of Kanai any oxygen layer on the surface is pushed into the surface by the perpendicular gas gate flow, not removed. In the present invention the air curtain box 36 (specification, page 13, ll. 6-9; Figure 3) serves a similar purpose as Kanai's gas gates 1016 and 1017, however the air curtain box 36 is not intended for removing the oxygen on the treating surface. Thus, Kanai fails to teach, show, or suggest the missing features from Kinoshita.

Additionally Kinoshita and Kanai fail to show, suggest, or teach the steps of claims 1-3 in an isolated environment.

To establish a *prima facie* case obviousness under 35 U.S.C. § 103, the Examiner has the burden of meeting the following three basic criteria: (1) the prior art must teach or suggest all of the claim limitations; (2) there must be a reasonable expectation of success; and (3) there must be some suggestion or motivation, either in the art or knowledge generally available to one of ordinary skill in the art to modify the reference or to combine teachings (M.P.E.P. § 2143)(emphasis added).

Applicants have already explained why the Examiner's alleged combination of Kinoshita and Kanai fails to teach or suggest all the features of independent claim 1. Therefore, since claims 2 and 3 each depend directly from claim 1, claims 2 and 3 are allowable at least for the reasons generally expressed above with respect to claim 1.

Accordingly Applicants respectfully request reconsideration and withdrawal of the outstanding rejection of claims 1-3 under 35 U.S.C. § 103(a).

2. Rejection under 35 U.S.C. § 103 (a) based on Kinoshita+Kanai+Laethem

Claim 4 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kinoshita in view of Kanai as applied to claim 1 and further in view of Laethem et al. (U.S. Patent No. 4,188,199). This rejection is respectfully traversed.

As set forth on page 5 of the Office Action, the Examiner states that Kinosshita in view of Kanai fails to teach that the "oxygen or air removing gas is introduced in opposite direction of the substrate transfer direction and the humidified inert gas is introduced obliquely in a forward direction of the substrate transfer direction."

The Examiner alleges that Laethem teaches a method where "the treating gases are introduced at an oblique angle and in the moving direction of the substrate as shown in Figure 2 in order to improve uniform exposure of the surface of the substrate to treating gases (col. 1, ll. 38-60)" (Office Action, page 5).

Claim 4 states "removing oxygen or air on ... a treating surface ... by blasting an inert gas on said treating surface at an oblique angle toward an upstream side in a substrate transfer direction..." Laethem fails to show such a feature.

Applicants direct the Examiner's attention to the cited section of Laethem, which states in part:

> The subject of this patent application is a coating process by which the quality standards attainable by the prior process can be more easily obtained or can be improved upon. According to the present invention, there is provided a process for forming a metal or metal compound coating on a face of a continuously longitudinally moving glass ribbon which includes the steps of contacting such face while it is at elevated temperature, at a zone along the ribbon path, with a fluid medium consisting of or containing one or more substances which undergo chemical reaction or decomposition to form the metal or metal compound on the face, discharging at least part of the fluid medium against the face as a stream or streams which, or at least one of which , has a velocity component in the direction of movement of the ribbon...(Laethem, col. 1, ll. 38-55).

The cited section in Laethem fails to suggest the blasting of any form of gas.

The Examiner further refers to Figure 2, which shows feed channels 17 and 18, which "by way of example, different vaporized substances entrained in currents of carrier gas can be discharged along feed channels 17 and 18 so that the substances react in the vicinity of the top face of the ribbon and forming a coating thereon". (Laethem, col. 7, ll. 12-16). Laethem shows the use of feed channels for use in coating, however Laethem fails to show "removing oxygen or air on ... a treating surface ... by blasting an inert gas on said treating surface at an oblique angle toward an upstream side in a substrate transfer direction." Therefore, Laethem fails to show, suggest, or teach the missing features of the alleged combination of Kinoshita and Kanai (assuming they are combinable which Applicants do not admit).

Additionally Kinoshita, Kanai, and Laethem fail to show, suggest, or teach the steps of claim 4 in an isolated environment.

Further, Applicants have already explained why the alleged combination of Kinoshita and Kanai fails to teach or suggest the features of independent claim 1, which was relied upon by the Examiner as the basis for rejecting claim 4. Additionally, as discussed above Laethem fails to teach or suggest the lacking features in the alleged combination of Kinoshita and Kanai as applied to claim 1. Therefore, claim 4 is allowable at least for the reasons generally described in the foregoing remarks.

Accordingly Applicants respectfully request reconsideration and withdrawal of the outstanding rejection of claim 4 under 35 U.S.C. § 103(a).

New Claim

New claim 12 has been added to this application and further defines the inventive features supported by the present application. None of the references show, suggest, or teach the features of claim 12 where the steps take place in an isolated environment, in particular when the isolated environment is in a chamber.

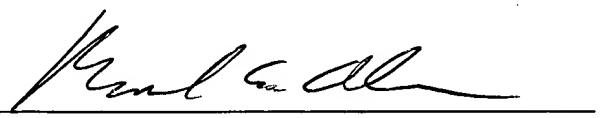
CONCLUSION

In view of the above amendments and remarks, Applicants respectfully request reconsideration and withdrawal of the formal objections and rejections to the claims, and the rejections based on prior art. Because all claims are believed to define over prior art of record, Applicants respectfully request an early indication of allowance of the claims.

If the Examiner has any questions concerning this application, the Examiner is requested to contact the undersigned at (888) 510-0695 in the Washington, D.C. area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayments to Deposit Account No. 50-2842 for any additional fees required under 37 C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

Very truly yours,
KCO Law, PLLC

By 

Mark E. Olds
Reg. No. 46,507
P.O. Box 220472
Chantilly, VA 20153-0472

JPK/MEO

(888) 510-0695